CLAIMS

What is claimed is:

1. A method in a data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:

transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;

determining whether the first message was received by the other of the nodes on the first bus; and when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command to the other of the nodes on a second of the plurality of busses.

2. A method of claim 1 wherein the other of the nodes cycles power to a bus interface circuit operatively connecting the other node to the first bus in response to the recovery command.

3. A method of claim 2, wherein the bus interface circuit is a link layer controller.

4. A method of claim 2, wherein the bus interface circuit is a physical layer controller.

5. A method of claim 1, wherein transmitting periodically the first message further comprises transmitting the first message on each of the plurality of busses.

6. A method of claim 1, wherein transmitting periodically the first message further comprises transmitting the first message from the one node to each of the other nodes.

7. A method of claim 1, wherein the nodes transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is one of the plurality of messages, and the first message is transmitted once in each frame.

8. A method of claim 1, wherein the nodes transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is at least one of the plurality of messages, each frame includes a plurality of minor frames, and the first message is transmitted once each minor frame.

9. A method of claim 1, wherein determining whether the first message was received comprises sending a second message to the other of the nodes on the first bus and determining whether the second message was received by the other of the nodes.

10. A method of claim 1, further comprising:

detecting a current surge in a bus interface circuit operatively connecting the one node to the first bus; and

cycling power to the bus interface circuit in response to detecting the current surge in the bus interface circuit.

11. A method of claim 1, wherein the second bus is a different type of bus than the first bus.

12. A method of claim 11, wherein the recovery command causes a bus interface circuit operatively connecting the other node to the first bus to be re-initialized.

13. A data processing system, comprising:

a network having a plurality of busses;

a plurality of nodes operatively connected to the plurality of busses of the network;

means for transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;

means for determining whether the first message was received by the other of the nodes on the first bus; and

means for transmitting a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses in response to determining that the first message was not received by the other of the nodes.

14. A data processing system of claim 13, wherein the other of the nodes comprises:

a bus interface circuit operatively connecting the other node to the first bus; and

means for interrupting power to the bus interface circuit in response to the recovery command.

15. A data processing system of claim 14, wherein the other of the nodes further comprises

means for detecting a current surge in the bus interface circuit operatively connecting the other node to the first bus; and

means for reporting the current surge in the bus interface circuit to the one node on the second bus.

16. A data processing system of claim 13, wherein the nodes are operatively configured to transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is one of the plurality of messages, and the first message is transmitted once in each frame.

17. A data processing system of claim 13, wherein the nodes are operatively configured to transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is one of the plurality of messages, each frame includes a plurality of minor frames, and the first message is transmitted once in each minor frame.

18. A data processing system of claim 13, wherein the one node comprises:

a bus interface circuit operatively connecting the one node to the first bus;

means for detecting a current surge in the bus interface circuit; and

means for cycling power to the bus interface circuit in response to detecting the current surge.

19. A data processing system of claim 13, wherein the second bus is a different type of bus than the first bus.

20. A data processing system of claim 19, wherein the other of the nodes comprises:

a bus interface circuit operatively connecting the other node to the first bus; and

means for receiving the recovery command on the second bus and for re-initializing the bus interface circuit in response to the recovery command.

21. A computer-readable medium containing instructions causing a program in a data processing medium to perform a method, the data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:

transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;

determining whether the first message was received by the other of the nodes on the first bus; and

when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses.

22. A computer-readable medium of claim 21, wherein the other of the nodes cycles power to a bus interface circuit operatively connecting the other node to the first bus in response to the recovery command.

23. A computer-readable medium of claim 22, wherein the bus interface circuit is a link layer controller.

24. A computer-readable medium of claim 22, wherein the bus interface circuit is a physical layer controller.

25. A computer-readable medium of claim 21, wherein transmitting periodically the first message further comprises transmitting the first message from the one node to each of the other nodes.

26. A computer-readable medium of claim 21, wherein the nodes transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is one of the plurality of messages, and the first message is transmitted once in each frame.

27. A computer-readable medium of claim 21, wherein the nodes transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is one of the plurality of

messages, each frame includes a plurality of minor frames, and the first message is transmitted once each minor frame.

28. A computer-readable medium of claim 21, further comprising:

detecting a current surge in a bus interface circuit operatively connecting the one node to the first bus; and

reinitializing a bus interface circuit in response to detecting the current surge.

29. A computer-readable medium of claim 21, wherein the second bus is a different type of bus than the first bus.

30. A computer-readable medium of claim 28, wherein the recovery command causes a bus interface circuit operatively connecting the other node to the first bus to be re-initialized.

31. A data processing apparatus, comprising:

a plurality of network interface cards operatively configured to connect to a network having a plurality of busses, each network interface card having a bus interface circuit operatively configured to connect to a respective one of the plurality of busses;

a memory having a program that periodically transmits a first message to at least one of a plurality of nodes operatively connected to a first of the plurality of busses of the network, determines whether the first message was received by the other of the nodes on the first bus, and transmits a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses in response to determining that the first message was not received by the other of the nodes; and

a processing unit for running the program.

32. A data processing apparatus of claim 30, wherein the recovery command causes the other of the nodes to reinitialize a bus interface circuit operatively connecting the other of the nodes to the first bus.

33. A data processing apparatus of claim 31, wherein the second bus is of a different type than the first bus.

34. A data processing apparatus of claim 30, wherein the first message is transmitted once per frame.

35. A data processing apparatus of claim 30, wherein the nodes are operatively configured to transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is one of the plurality of messages, each frame includes a plurality of minor frames, and the first message is transmitted once in each minor frame.

36. A data processing apparatus of claim 30, the method further comprising:

detecting a current surge in the bus interface circuit of one of the network interface cards; and

cycling power to the bus interface circuit of the one network interface card in response to detecting the current surge.